

REMARKS

Claims 1, 3-35 and 37-48 are presently pending in the application.

Claims 1, 3, 35 and 37 have been amended by incorporating claims 2 and 36 into claims 1 and 35, and changing dependencies of claims 3 and 37. Amended claims 1 and 35 more particularly point and distinctly claim the subject matter which Applicant's regard as the invention. Claims 2 and 36 have been cancelled without prejudice, and have been incorporated into claims 1 and 35.

The Examiner is respectfully requested to reconsider and withdraw the rejection of claims 1, 14-22 and 35 under 35 U.S.C. 102(e) as anticipated by, or, in the alternative, under 35 U.S.C. 103(a) as obvious over Sughrue et al., (US 6,254,766). Claims 1 and 35 have been amended to more particularly point out and distinctly claim the subject matter which Applicant's regard as the invention. Claims 1 and 35, and all subsequent claims, now recite and claim the rate that a hydrogen-containing diluent enters a reaction zone.

The Examiner is respectfully requested to reconsider and withdraw the rejection of claims 2-13, 22-34 and 36-48 under 35 U.S.C. 103(a) as being unpatentable over Sughrue et al., (US. 6,254,766). The Examiner states specifically that Sughrue is silent about the specific hydrogen diluent addition rate, which is now claimed in all claims. As such, the present invention is a patentable improvement over Sughrue. The Examiner also argues that would be obvious to one of ordinary skill in the art to add hydrogen at any rate to accomplish a desirable conversion. The Examiner directs attention to column 7, lines 52-55 of the '766 patent, which states that hydrogen in the desulfurization zone is such that

the mole ratio of hydrogen to hydrocarbon feed is in the range of about 0.1 to about 10. All claims of the presently pending application claim a hydrogen-containing diluent entering a reaction zone at a rate in a range of from about 1,000 to about 10,000 scfb (standard cubic feet of gas per barrel of hydrocarbon).

Included with this amendment, Applicants provide an Affidavit pursuant to 37 C.F.R. 1.131 showing the subject matter of all claims of the presently pending invention were reduced to practice before the effective date (July 3, 2001) of the Sughrue patent under 35 U.S.C. 102(a). Therefore, the Sughrue patent is not prior art under 35 U.S.C. 102(a), and only qualifies as prior art under 35 U.S.C. 102(e).

Subsection (c) of 35 U.S.C. 103 states, "Subject matter developed by another person, which qualifies as prior art only under one or more subsection (e), (f), and (g) of section 102 of this title, shall not preclude patentability under this section where the subject matter and the claimed invention were, at the time the invention was made, owned by the same person or subject to an obligation of assignment to the same person." Applicant's hereby assert that the invention of the present application and the Sughrue '766 patent were, at the time the present invention was made, owned by or subject to an obligation of assignment to the same person. Therefore, the Sughrue patent cannot be used as a prior art reference in obviousness rejection of the present application.

The Examiner is respectfully requested to reconsider and withdraw the rejection of claims 1-5, 7-18 and 24-31 and 35-39 under 35 U.S.C. 103(a) as being unpatentable over Khare (US 5,281,445) in view of Masuda et al., (US

6,042,798). As the Examiner notes, the present invention is a patentable improvement over Khare in the recitation of not only removing hydrogen sulfide, but removal of all types of sulfur from a contaminated fluid stream. The present invention is also a patentable improvement over Khare in the recitation of the addition a hydrogen-containing diluent to the reaction zone.

The Examiner sites Masuda et al. to illustrate the addition of hydrogen during a desulfurization process. However, Applicants respectfully suggest that Masuda and Khare are not properly combinable. As the Examiner noted, Khare discloses a metal on a zinc oxide material useful to remove hydrogen sulfide. Masuda uses a copper-zinc desulfurizing agent prepared by a co-precipitation method to remove sulfur. The present invention is a patentable improvement over Masuda in the recitation of a zinc oxide component as part of the sorbent material. As the Examiner knows, the art of catalysis is very unpredictable. Use of hydrogen to aid sulfur removal with a copper-zinc desulfurizing agent does not necessary correlate, without any addition further teaching or support, to the use of hydrogen to assist hydrogen sulfide removal using a sorbent comprising a metal on a zinc oxide.

In view of the foregoing amendments and remarks, reconsideration
and allowance of claims 1, 3-35 and 37-48 are respectfully requested.

Respectfully submitted

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